UTAH STATE IMPLEMENTATION PLAN

SECTION X

VEHICLE INSPECTION AND MAINTENANCE PROGRAM

PART D

UTAH COUNTY

Adopted by the Utah Air Quality Board
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1. I/M performance standard

Federal requirements EPA's I/M regulation, 40 CFR Part 51, Inspection and Maintenance Program Requirements, Final Rule November 5, 1992, specifies a model Basic I/M program. Utah is required by Section 182 of the Clean Air Act to implement an I/M program in Utah County that is at least as effective as the EPA's Basic Performance Standard. The Basic I/M performance standard is specified in 40 CFR 51.352. Regulators are not required to implement the exact elements specified in EPA's model I/M programs. EPA's I/M regulations instead require a performance demonstration that local I/M programs result in automotive emissions equal to or less than predicted for the EPA model I/M program. State and local governments may choose options best suited for their area to meet the performance standard.

Basic I/M Program MOBILE modeling The performance standard demonstration is made by use of the most recent release of EPA's MOBILE model. The MOBILE5.a model is able to calculate emission factors, grams of a particular pollutant per vehicle mile traveled across the fleet in an area (G/VMT), given information about the fleet, climate, fuel characteristics, and I/M programs in a local area. MOBILE5.a was used for the Basic I/M performance standard demonstration analysis. The MOBILE5.a input and output files for the modeling performed to evaluate the emission reduction benefits for Utah County's Basic I/M program are found in the Appendices for Section X, Part D.* Table X.D.1 summarizes the attainment milestones, the applicable performance standard and program target emission factors for VOC and CO emission factors specified in 40 CFR 51.

Basic I/M Program Performance Standard Utah County's I/M program exceeds the Basic I/M performance standard for all pollutants, although the EPA only requires the demonstration for each pollutant which caused an area to be subject to an I/M program. Utah County is in a moderate carbon monoxide non-attainment area.

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* The list of Appendices follows the Table of Contents.

UTAH COUNTY BASIC I/M PERFORMANCE STANDARD ANALYSIS SUMMARY

pollutant	program modeled	emission factors in grams/mile			
		January 1	1997	2000	2003
VOC	Basic Performance Standard		2.70	2.47	2.30
	Basic Program Target		2.65	2.42	2.22
		January 1	1996	2000	
CO	Basic Performance Standard		22.85	18.69	
	Basic Program Target		21.89	17.83	

TABLE X.D.1

Basic I/M Program Improvements On December 18, 1995, the Utah County Commission adopted Ordinance No. 1995 - 29, which adopts the Diesel Vehicle Emissions Inspection/Maintenance Program Rules and Regulations and the Vehicle Emissions Inspection/Maintenance Program Rules and Regulations in book form. Copies of Utah County Ordinance No. 1995 - 29 and the Vehicle Emissions Inspection/Maintenance Program Rules and Regulations are provided in Section X, Part D, Appendix D.1. Revisions to the Vehicle Emissions Inspection/Maintenance Program Rules and Regulations, adopted by the Utah County Commission in 1996, are also included in Section X, Part D, Appendix D.1. The proposed revisions define primary residence and require that individuals with their primary residence in Utah County register their motor vehicles in Utah County, removes the exemption for vehicles of model year older than 1968 (except for vintage vehicles), establishes waiver cut points, allows the county to recall specific vehicles for quality assurance testing, and allows the county to require repair of vehicles following the additional testing. The Utah County Commission also adopted a Remote Sensing Program ordinance on *(date to be determined)*. The Remote Sensing Program ordinance is provided in Section X, Part D, Appendix D.1.

Provo passed an ordinance requiring that the vehicles operated by people staying in Provo for more than sixty days be inspected and repaired as specified in the Utah County I/M ordinance regardless of where the vehicle is registered. The Provo ordinance is provided in Section X, Part D, Appendix D.9. Other vehicles operated in Utah County will be subject to surveillance using a remote sensing device. Vehicles identified as gross emitters in Utah County will be required to repair the vehicle to comply with the relevant emissions standard for the make and model of the vehicle. Utah County's Remote Sensing Program ordinance is provided in Section X, Part D, Appendix D.1.

Enhanced I/M Program requirement The Utah Air Quality Board adopted a revision to the carbon monoxide SIP for Provo/Orem on July 1, 1994, that requires implementation of an Enhanced I/M program, or an equivalent control measure, in Utah County no later than July 1, 1995. The Utah County Commission resolution committing to implement emission reduction programs that will achieve the reductions that are necessary to attain the

standard by December 31, 1995, as required by the SIP, is in Section X, Part D, Appendix D.3. On January 25, 1995, the Utah County Commissioners adopted Ordinance No. 1995-02, which adopts the Enhanced and Basic Vehicle Emission Inspection and Maintenance Program Rules and Regulations and specifies they shall be in effect and enforced only if the County Commission is unable to implement alternative emission reduction strategies that result in the required emission reduction credits as provided for in the State implementation Plan for Carbon Monoxide for Utah County. A copy of Utah County Ordinance 1995-02 is in Section X, Part D, Appendix D.1.

Enhanced I/M Program MOBILE modeling The performance standard demonstration is made by use of the most recent release of EPA's MOBILE model. The MOBILE5.a model is able to calculate emission factors, grams of a particular pollutant per vehicle mile traveled across the fleet in an area (G/VMT), given information about the fleet, climate, fuel characteristics, and I/M programs in a local area. MOBILE5.a was used for the performance standard demonstration analysis. Section X, Part D, Appendix D.11 contains the MOBILE5.a input and output files for the modeling performed to evaluate the emission reduction benefits for Utah County's Enhanced I/M program. Table X.D.2 summarizes the attainment milestones, the applicable performance standard and program target emission factors for CO.

Enhanced I/M Program Performance Standard Utah County's Enhanced I/M program exceeds the federal Basic I/M performance standard for all pollutants, although the EPA only requires the demonstration for each pollutant which caused an area to be subject to an I/M program. Utah County is developing and implementing innovative Basic I/M improvements described above that they expect will demonstrate compliance with the Enhanced I/M performance standard for carbon monoxide. See Section X, Part D, Appendix D.11 for details of Utah County's Basic I/M improvement plans. The performance demonstration summary and Mobile 5.a input and output files for the performance demonstration analysis for the Enhanced I/M program for Utah County will be added after the county adopts specific Enhanced I/M requirements.

UTAH COUNTY ENHANCED I/M PERFORMANCE STANDARD ANALYSIS SUMMARY

pollutant	program modeled evaluated at 32 degrees F at 35 mph	emission factors in grams/mile		
		January 1 1996	1996	2000
CO	Basic Performance Standard		20.50	13.7
	Basic Program Target		21.30	12.7

TABLE X.D.2

2. Network type

Utah County's I/M program is a basic, decentralized, test-and-repair system consisting of approximately 140 stations. Beginning July 1, 1995, Utah County's network will be Enhanced and test-only unless a test-and-repair network is approved by EPA as being equivalent to a test-only network regarding emission reduction effectiveness. Letters of opinion from the Utah Attorney General's Office and the Utah County Attorney's office validating the authority to implement the specified network in the Utah County are provided in Section X, Part D, Appendix D along with the Provo City I/M ordinance.

EPA evaluated Salt Lake County's test-and-repair network effectiveness in 1995 and concluded in a letter from Margo Oge to Dianne Nielson that the program "may well be as effective as a basic test-only program." She added that the findings would also be applicable to Utah County, provided it used the same audit procedure. EPA will accept the evaluation results as the basis for interim approval of test-and-repair network credits equivalent to a test-only network. Final network credit approval would be based on data demonstrating network effectiveness after the Enhanced I/M program is implemented. The letter from Margo Oge is found in Section X, Part D, Appendix D.11.f and the Utah Protocol describing the methodology by which the Basic I/M network effectiveness evaluation was conducted is provided in Section X, Part D, Appendix D.11.e.

3. Tools and resources

Funding mechanisms Utah County's I/M program is funded through two mechanisms. At the time of registration, a fee of $1 per car is collected by the Utah Tax Commission Motor Vehicle Customer Service Division or the Utah County Tax Assessor's Office. Those monies are remitted to the county in which the vehicle is registered. Utah County sells the certificates for $2.25 each. The fees are dedicated to I/M needs. Furthermore, the county charges fees for various permitting activities. A fee schedule can be found in an Appendix to the Utah County's I/M Program ordinance which is provided in Section X, Part D, Appendix D.1 The county puts the fee schedule into an appendix so that it can be revised quickly, as needed, to support the program without taking the entire document through rulemaking. Utah County began its I/M program in 1986. Past performance has demonstrated that adequate funding of Utah County's I/M program can be maintained in this manner.

Basic I/M program funding requirements Utah County will continue to allocate funding as needed to comply with the relevant requirements specified in Utah's SIP; Utah statutes; county ordinances, regulations and policies; and the federal I/M program regulation. Program budgets will include funding for resources necessary to adequately: manage the programs; conduct covert and overt audits, including repairs as specified in Section N; assist and educate inspectors, repair technicians, station owners, and the public; manage, analyze, and report data; ensure compliance with the program by inspectors, repair technicians, stations, and vehicle owners; and evaluate and upgrade the programs.

Budgets and descriptions of personnel resources, facilities, and equipment for Utah County's I/M program are provided in Section X, Part D, Appendix D.8.

Enhanced I/M program funding requirements Utah County expects that a test-only network, if implemented, would have fewer stations than are in their basic test-and-repair network. Utah County can provide oversight of the Enhanced I/M Program with the level of funding described above. Additional staff will not be needed.

4. Test convenience

There are approximately 140 permitted Basic I/M stations currently available within Utah County. Specific operating hours are not specified by the county. Some stations that test and service only one type of vehicle are permitted. It may not be practical to have a sports car tested at a heavy duty truck repair facility. Also there are government and private fleet permitted stations that are not open to the public. In the nearly 10 years that Utah County's I/M program has been in place, no complaints have been received.

5. Vehicle Coverage

Subject fleet The Utah County I/M ordinance specifies that all model year 1968 and newer model year light duty vehicles, light duty trucks, and heavy duty trucks registered or principally-operated in Utah County are subject to the I/M programs except for exempt vehicles. Vehicle coverage is discussed in greater detail in the Utah County I/M ordinance provided in Section X, Part D, Appendix D.1. Statistics for the subject vehicle fleet by vehicle type, model year, vehicle class, and weight class are included in Section X, Part D, Appendix D.11. The data was compiled for the 1990 emissions inventory and has been subjected to a comprehensive quality assurance effort.

Alternative fuels Vehicles operated on alternative fuels such as propane, alcohol, and natural gas are also subject to the program. Dual-fueled vehicles are tested twice, once on each fuel. See sections 3.1.21 and 3.3.31 of the UTAH91 Analyzer specifications provided in Section X, Part A, Appendix A.4 of Section X and Utah County's Enhanced I/M ordinance alternative fuels requirements.

Government fleet Section 41-6-163.6(1)(b) requires that all vehicles owned or operated in the Utah County by federal, state, or local government entities comply with the I/M programs. The Utah County I/M program may permit government stations and inspectors to perform I/M inspections. The I/M station and inspector permit requirements are the same for government fleets as for private or commercial stations and inspectors. Some government agencies choose to have their vehicles inspected at a commercial I/M station. Utah County requires submittal of a list of subject vehicles and a certificate of compliance or waiver for each vehicle every year.

Vehicles owned by students and federal employees Section 41-6-163.3(5) requires

universities and colleges located in Utah's I/M areas to require proof of compliance with the I/M program for vehicles which are permitted to park on campus regardless of where the vehicle is registered. Vehicles operated by federal employees and operated on a federal installation located within an I/M program area are also subject to the I/M program regardless of where they are registered. Proof of compliance consists of a current vehicle registration in an I/M program area or an I/M certificate of compliance or waiver, or evidence of exempt vehicle status as specified in in this section.

Farm truck exemption Eligibility for the farm truck exemption from the I/M programs is specified in Section 41-6-163.6(4) and must be verified in writing by the Utah County Assessors' Office. The owner must sign an affidavit on Utah State Tax Commission form TC-838 that vehicle use will be limited to agricultural activities. A copy of the form is provided in Section X, Part A, Appendix 2.b.

Diesel vehicles Diesel vehicles are no longer exempt from I/M. A diesel I/M program was implemented in 1994.

New vehicle exemption Proof that a vehicle is new and being registered for the first time is established by presentation of a Manufacturer's Statement of Origin (MSO) at the time of registration.

Out-of-state exemption Vehicles registered in an I/M county but operated out-of-state are eligible for an extension. The owner must complete Utah State Tax Commission form TC-810 in order to be registered without inspection documentation from Utah County. The owner must explain why the vehicle is unavailable for inspection in Utah. Common situations include Utah citizens that are military personnel stationed outside of the state, students attending institutions of higher education elsewhere, and people serving missions. If the temporary address of the owner is located within another I/M program area listed on the back of the form, the owner must submit proof of compliance with that I/M program at the time of, and as a condition precedent to, registration or renewal of registration. The vehicle owner must identify their anticipated date of return to the state and is required to have the vehicle inspected within 10 days after the vehicle is back in Utah, unless they can demonstrate that the vehicle had passed an I/M inspection in another area. Utah County maintains a record of such exemptions and requires submission of an I/M inspection certificate or waiver at the indicated time. A copy of the Tax Commission form is found in Section X, Part A, Appendix A.2.c and samples of the letter Utah County sends to vehicle owners who have not complied after the return date is provided in Section X, Part D, Appendix D.5.

Exempt vehicle statistics Motorcycles, farm vehicles, and new vehicles being registered for the first time are exempt. Statistics for exempt vehicles are provided in Table X.G.

VEHICLES EXEMPT FROM I/M PROGRAM REQUIREMENTS IN UTAH COUNTY
(provided by Utah Motor Vehicle Customer Service Division January 1995)

motorcycles	3,124
farm trucks (over 12,000 GVW)	362
farm trucks (≤ 12,000 GVW)	374
new vehicles	1,540
total	5,400

TABLE X.D.3

Unregistered vehicles From data gathered by law enforcement agencies in random and regular roadblock surveys, an estimated 2,500 unregistered vehicles or vehicles with expired registrations are estimated to be operated in Utah County. A data summary is provided below.

1992 REGISTERED AND UNREGISTERED VEHICLE DATA
(Utah Highway Patrol and Motor Vehicle Customer Service Division data)

County	Vehicles Registered	Registration Citations	Registration Warnings
Utah	154,970	1,523	742

TABLE X.D.4

Roadside I/M program element I/M ordinances and regulations require that vehicles available for rent or use in Utah County are subject to its I/M program. To the extent practicable, all vehicles principally-operated within the county are subject to the I/M program. If effective, Section 10.41 of Utah County's Enhanced I/M program ordinance requires on highway emissions tests using a remote sensing device. A copy of the ordinance is provided in Section X, Part D, Appendix D.1.b. A copy of Utah County's proposed Remote Sensing Program ordinance is provided in Section X, Part D, Appendix D.1.c.

6. Test procedures and standards

Specifications Detailed specifications for the I/M test procedures and standards are described in the Utah County I/M ordinance provided in Section X, Part D, Appendix D.1. The UTAH91 Analyzer specifications are provided in Section X, Part A, Appendix A.4. The Enhanced test procedure, equipment, and personnel practices are specified in #EPA-AA-EPSD-IM-93-1, April 1994, and 40 CFR Part 51 VII. Specifications for the test procedure and equipment were developed according to good engineering practices to ensure test accuracy. The specifications for Utah County's remote sensing device is

provided in Section X, Part A, Appendix A.6.

Basic test procedure and analyzer The Basic I/M program uses EPA's PRECONDITIONED TWO SPEED IDLE TEST as specified in EPA-AA-TSS-I/M-90-3 March 1990, Technical Report, "Recommended I/M Short Test Procedures for the 1990's: Six Alternatives." All Basic emissions inspections are performed using the UTAH91 Analyzer, a BAR90-type emissions analyzer. The UTAH91 Analyzer calibration specifications and emissions test procedures meet the minimum standards established in Appendix A of the EPA's I/M Guidance Program Requirements, 40 CFR Part 51 Subpart S.

Covered vehicles are defined in Section X.D.5. All covered vehicles in Utah County are subject to the Basic test procedure and inspected using the UTAH91 analyzer as specified in this section. If and when Utah County's Enhanced I/M program is implemented, all 1980 and older model year covered vehicles will be subject to the Basic test procedure and inspected using the UTAH91 analyzer as specified in this section.

Utah County's Enhanced test procedure and analyzer If and when the Utah County's Enhanced I/M program is implemented, all model year 1981 and newer covered vehicles registered in Utah County are subject to the Enhanced test procedure, equipment, and personnel practices as specified in Utah County's Enhanced and Basic Vehicle Inspection and Maintenance Program Ordinance January 25, 1995; #EPA-AA-EPSD-IM-93-1, April 1994 (Section X, App. 8.a.1); and 40 CFR Part 51 VII, November 5, 1992.

Pre-inspection emissions-related repairs Inspectors in the county's test-and-repair networks are required to perform the emissions test prior to making any emissions-related repairs when a vehicle is presented for an emissions inspection. All inspectors who conduct test-only inspections, are required to ask the vehicle owner or operator whether a tune-up or other emissions-related repairs have been performed within 6 weeks prior to the emissions inspection and to document the owner's response in the UTAH91 or Enhanced I/M computer database.

Safety issues Vehicles presented in unsafe condition must be repaired before inspection. Vehicles are also subject to an annual safety inspection administered by the Highway Patrol. Submission of proof of compliance with the safety program is also required as a condition for registration or renewal of registration. Most owners in Utah's test-and-repair networks have the safety and emissions inspection performed at the same time as the emissions inspection. Data relative to the safety inspection can be recorded in the UTAH91 Analyzer. Utah County's I/M program is administered with close cooperation with the Utah Highway Patrol Safety Program.

Exhaust leaks The UTAH91 analyzer measures exhaust carbon monoxide (CO) and carbon dioxide (CO_2). Exhaust CO + CO_2 readings of less than 6% indicate a leaky exhaust system and cause the UTAH91 analyzer to abort the inspection. See section

3.3.30C of the UTAH91 analyzer specifications in Section X, Part A, Appendix A.4.

Emission standards The Utah County proposed I/M ordinance includes hydrocarbon and carbon monoxide emission standards in an appendix to allow for quick adjustment of the standards in case actual failure rates fall below the level specified in the State Implementation Plan. Vehicles must pass both the hydrocarbon and carbon monoxide emission standard regardless of the NAAQS attainment status of the county of registration. The emission standard for the Basic I/M program was used in the MOBILE5.a modeling that was conducted to demonstrate compliance with the Basic I/M performance standard. The remote sensing carbon monoxide and oxides of nitrogen emissions standards for Utah County will be established and revised as specified in the proposed Remote Sensing Program ordinance provided in Section X, Part D, Appendix D.1.c. Utah County also established waiver emission standard for carbon monoxide that can be found in Appendix F of Utah County's Vehicle Emission Inspection Maintenance Program ordinance that is provided in Section X, Part D, Appendix 1.b.

Stringency The Utah County I/M program will adjust tailpipe emission standards as necessary to maintain a stringency rate of at least 22% for pre-81 model year vehicles, the stringency rate used in the Basic I/M performance standard modeling demonstration.

Re-test standards The same test procedure and emission standards are used for initial tests and retests, regardless of which part a vehicle may have failed during an initial test. Utah County's I/M test procedure requires an official test, once initiated, to be performed in its entirety regardless of intermediate outcomes, except in the case of invalid test conditions, unsafe conditions, or the fast pass/fail algorithms.

*Anti-tampering provision*s Utah County requires a visual emissions control device inspection to determine whether the air system, catalyst, fuel inlet, exhaust gas recirculation (EGR) valve, evaporative system, positive pressure crankcase valve (PCV), and gas cap are present, appear to be properly connected, and appear to be the correct type for the certified vehicle configuration. Regardless of the vehicle model year, Utah County does not allow waivers for tampered vehicles or money spent to repair tampered or missing emission control devices to be applied towards a minimum waiver cost. Utah County requires repair of any catalyst, air pump system, and fuel neck restrictor tampering on vehicles of model year 1977 through 1989. The county also requires repair of any tampering of the air system, catalyst, fuel inlet, exhaust gas recirculation (EGR) valve, evaporative system, positive pressure crankcase valve (PCV), and gas cap on model year 1990 and newer vehicles. The catalytic convertor must be replaced on vehicles that fail due to a tampered fuel inlet restrictor.

Engine changes Utah County's proposed I/M ordinance has a section that addresses engine changes. After an engine change, vehicles are tested to the tailpipe emission standards and anti-tampering requirements applicable to vehicles of the chassis model year. Mixing vehicle classes (e.g., light-duty with heavy-duty) and certification types (e.g.

California with federal) within a single vehicle is considered tampering.

Fuel switching Vehicles that are switched to a fuel type for which there is no certified configuration are tested according to the most stringent emission standards for that vehicle model year and vehicle type.

7. Test Equipment

Specifications Written technical specifications for the UTAH91 Analyzer, a BAR90-type computerized emissions analyzer, are provided in Section X, Part A, Appendix A.4. Additional written technical specifications for Utah County's I/M test equipment are specified in Utah County's Enhanced and Basic Vehicle Inspection and Maintenance Program Ordinance January 25, 1995 (Section X, Part D, Appendix D.1.a); #EPA-AA-EPSD-IM-93-1, April 1994; and 40 CFR part 51 VII, November 5, 1992.

UTAH91 analyzer access restrictions An inspector access code is required to use the UTAH91 analyzer for official tests, a service access code to repair or service the analyzer, and an auditor access code to access the audit functions. DOS functions are not accessible to station owners, inspectors, or analyzer service personnel. Programming changes are made by county I/M auditors from disks supplied by the analyzer manufacturer.

UTAH91 data security provisions Manual data entry is minimized. For initial inspections, the inspector enters vehicle registration and vehicle information from the keyboard. Data elements are described in the UTAH91 analyzer specifications. For retests, the inspector calls up the initial test file, compares the vehicle and owner data, and confirms the VIN/license plate data. Data regarding inspections, analyzer calibration and service, lock-out activities, and audit information are stored to a secured disk drive and retrieved by county auditors at least once a quarter.

UTAH91 automated test procedure The UTAH91 analyzer automatically reads all test measurements, records test results in the computer database, determines whether the vehicle has passed or failed a test, and prints vehicle inspection reports and inspection certificates for all subject vehicles. The analyzers are capable of simultaneously sampling dual exhaust vehicles. The analyzer bench includes two non-dispersive infrared (NDIR) analyzers for carbon monoxide, carbon dioxide, and hydrocarbon measurements (one low range and one high range), and one NDIR analyzer for carbon dioxide measurement. The test procedure is automated to the highest degree practical to minimize the potential for intentional fraud and/or human error.

UTAH91 security lockouts The analyzers are programmed to trigger lock-outs when abuse or tampering occur. Lock-outs occur after any security system is tampered, failure to conduct or pass periodic calibration tests, or the data recording medium is full. The analyzer can not be used until the lock-out has been cleared by a Utah County I/M auditor.

The analyzer automatically keeps an electronic record of all lock-outs including the date of the lock-out, the reason for the lock-out, and the date and person that cleared the lock-out.

UTAH91 certified analyzer use restriction Since September 1, 1991, the Utah County Basic I/M program requires that official emissions tests be conducted only on registered UTAH91 analyzers jointly certified by all four I/M counties. A description of the certification procedure is provided in Section X, Part A, Appendix A.5. There have been several updates of the UTAH91 Analyzer specifications to date and more will follow, as necessary, to accommodate new technology vehicles and changes to the program.

8. Quality Control

General quality control specifications Utah County's Enhanced I/M program, the UTAH91 Analyzer specifications, and current I/M program ordinances and regulations were carefully designed to insure that emission measurement equipment is calibrated and maintained properly, and that inspection, calibration records, and maintenance records are accurately created, recorded, and maintained. The specifications meet the test equipment quality assurance practices described in 40 CFR 51 Subpart S Sec. 51.359 and Section X, Appendix A.

UTAH91 automatic electronic quality assurance features Operational analyzer quality assurance measures such as analyzer calibration, zero and span check, hydrocarbon hang-up check, and leak check are mandatory automatic analyzer capabilities. Gas accuracy tolerances, dilution limits, analyzer warm up requirements, system response time requirements, optical correction factors, and interference effects are also addressed in the analyzer specifications. If the checks are not performed on schedule or identify measurements outside of acceptable limits established in the specifications, a lock-out occurs preventing use of the analyzer until such problems are corrected. See Sections 2.12, 2.13, and 2.18 of the UTAH91 Analyzer specifications. Records of all quality assurance activities with respect to the analyzer are automatically recorded in the analyzer's electronic database and evaluated by Utah County I/M auditors on a regular basis. Section 1.7 discusses requirements for assurance that unauthorized access to the I/M database in the analyzer is secure. Attempts to deliberately avoid or defeat analyzer or inspection quality assurance provisions result in disciplinary action against the I/M mechanic and/or station.

UTAH91 analyzer maintenance Section 1.8 of the UTAH91 Analyzer specifications describes required services, warranty provisions, and documentation that analyzer manufacturers must provide to customers. It includes ensuring that the analyzer meets the quality assurance specifications at the time of delivery, that routine quarterly preventative maintenance is performed, training on how to use, maintain, and operate the analyzer is provided by the manufacturer, and that if repair of defects can not be made promptly a temporary analyzer replacement is provided. Service activities are recorded in the

analyzer's electronic database. Utah County has conducted a survey of analyzer owners to determine compliance with these provisions. Failure of an analyzer manufacturer to meet quality assurance specifications could result in de-certification of the that manufacturer's product for use in Utah.

UTAH91 document security Document security was a high priority during the UTAH91 analyzer design phase. The analyzer tracks the unique certificate numbers and ensures that the certificate printed matches the test number. Missing certificate numbers are stored in the analyzer database for auditor review. The certificates are printed on a dedicated and locked printer. Only permitted inspectors have access to the certificate printer and storage area. Access to the certificates is only possible for the purpose of loading or aligning certificates in the printer. Attempts to access this area at other times or without an access code sets a lock-out that only county auditors can clear. The certificate storage area is designed with redundant security systems including both hardware and software locks. See Section 2.16 of the UTAH91 analyzer specifications. The blank certificates are commercially printed with sequential and unique serial numbers on counterfeit-resistant security paper.

UTAH91 analyzer certification Sound engineering practices were followed during the design and certification of the UTAH91 analyzer to insure accurate and repeatable inspections under a range of environmental conditions. Manufacturer owner's manuals, operating instructions, and warranty provisions were also reviewed during the certification process. Comprehensive records of the certification process have been maintained.

General UTAH91 analyzer security provisions Utah County's I/M ordinance requires use of a certified and registered UTAH91 analyzer for official inspections. Inspection records include the analyzer registration number. The ordinances and regulations make it illegal to alter analyzer software or hardware without written approval. Analyzer calibration requirements, maintenance, and warranty provisions are also specified in the Utah County I/M ordinance. Copies are provided in Section X, Part D, Appendix D.1.

9. Waivers

Waiver rate Utah County will take corrective action as needed to maintain a maximum waiver rate of 5% of the initially failed vehicles or the Utah Air Quality Board will revise the SIP and emission reductions claimed based on the actual waiver rate. The conditions for issuing waivers legally authorized and specified in the Utah County I/M ordinance meets the minimum waiver issuance criteria specified in 40 CFR Subpart S 51.360.

Waiver procedures The Vehicle Inspection Report (VIR) printed by the UTAH91 analyzer after each inspection and provided to the vehicle owner/operator includes warranty and waiver information, if the vehicle failed the emissions inspection. A waiver document may be issued only by Utah County I/M technical center staff and only after verification of required documentation. Any tampered, missing, or inoperable emission

control devices must have been replaced or repaired. At least $100 for 1968 through 1980 model year vehicles and $200 for 1981 and newer model year vehicles must have been spent on acceptable emission repairs as verified by a Utah County I/M program auditor by physical examination of the vehicle and review of the repair documentation. Repair documentation, such as receipts, are copied and retained by auditor to prevent reuse. Utah County requires that emissions-related repairs be made by a Certified Emissions Technician (certified under section 14.0 of the proposed Utah County I/M ordinance). Any vehicle that experiences an increase in all emissions levels is not eligible for an emissions repair waiver regardless of the amount spent to repair the vehicle. Also, before a waiver can be issued, the vehicle must have an improvement in carbon monoxide emissions. Utah County's proposed waiver emission standards for carbon monoxide can be found in Appendix F of Utah County's Vehicles Emission Inspection/Maintenance Program Ordinance that is provided in Section X, Part D, Appendix D.1.b. In the state of Utah, vehicles still under the federal emissions warranty are not eligible for a waiver until all warranties are exhausted. Warranted repair and tampering repair may not be applied to the repair cost waiver limits. Waivers are only valid for one test cycle. The vehicle owner surrenders the original waiver document at the time of registration; copies are not accepted for registration purposes. Specific provisions regarding waivers may be found in Utah County's I/M ordinance and the Utah Tax Commission Division of Motor Vehicle policy manual which is available upon request. The I/M program in Utah County does not provide for time extensions to relieve economic hardships in obtaining emission-related repairs.

10. Motorist compliance enforcement

Registration denial Utah County's I/M program is enforced by means of registration denial. Vehicle owners must present proof of compliance with the I/M program, a waiver, or evidence of exemption from the I/M program as a condition precedent to vehicle registration or registration renewal. See paragraphs 4 and 6 for a more detailed discussion of inspection frequency, inspection scheduling, license plate requirements, and enforcement of the registration requirements. Citations are routinely issued to operators of vehicles with expired or missing license plates during routine traffic stops, parking lot inspections, and roadblocks. As specified in Section 41-1a-1303 (Section X, Part A, Appendix A.1.d), driving without registration is a Class C misdemeanor. The penalty for a Class C misdemeanor is imprisonment of no more than 90 days and $750 for persons or up to $1000 for corporations, associations, partnerships, or government instrumentalities. In addition to paying a fine the motorist must register the vehicle. It is currently a Class B misdemeanor to violate a county I/M regulation or ordinance. The penalty for a Class B misdemeanor is a imprisonment of not exceeding six months and for persons a fine of up to $1000 or for corporations, associations, partnerships, or government instrumentalities a fine of up to $5000. Copies of the relevant statute are provided in Section X, Appendices 1.b and 1.e. In Utah, the magnitude of such penalties is a judicial rather than an administrative decision. Per Section 41-1a-1315 falsification of evidences of title and registration is a second degree felony.

Certificate of Compliance The Certificate of Compliance is dated by the UTAH91 analyzer or the Enhanced I/M contractor in Utah County immediately after a passing inspection is completed. The certificate is only valid for registration purposes for two months. At the same time the analyzer also prints the following information on the certificate to ensure unambiguous vehicle identification: the vehicle identification number (VIN), license number, model year, make, and model. A sample of the Certificate of Compliance is in Appendix C of the UTAH91 specifications. The certificates are only printed in the event that the vehicle passed the emissions inspection. Separate documentation, including the same vehicle information, is used for waivers.

Fuel changes to non-subject status Vehicle changes that would result in registration changes from a subject to exempt status require physical confirmation by Utah County I/M program personnel at the I/M technical center. Falsification of registration or title information is a felony offense.

Title transfers Proof of compliance with the I/M program is required for a title transfer. The system ensures that owners are not able to avoid the program by extending the inspection date through manipulation of the title and registration system.

Utah County I/M program staff, peace officers, and the Utah Tax Commission Motor Vehicle Customer Service Division routinely work together to ensure that motor vehicle owners that move into an I/M program area complete registration transfer including compliance with the I/M program. Except for higher education students and active duty military personnel, people are required to register their vehicles in the county in which they are domiciled. As discussed in the Vehicle Coverage section, although these two exempted classes of vehicle owners do not have to register their vehicles in Utah, they do have to comply with the I/M programs. Employment status, maintenance of a residence, enrollment of children in local schools, and voting districts are considered when identifying persons in violation of this requirement.

The Utah County I/M program staff work with citizens, the Motor Vehicle Customer Service Division and county attorneys to identify and prosecute people that illegally transfer registration to a non-subject area to avoid the I/M program. The process is very labor intensive. There are many legitimate reasons to be operating a vehicle in an I/M program area that is registered elsewhere. Violators must be dealt with on a case-by-case basis. Persons caught are subject to fines. Those prosecuted and convicted could end up with a criminal record and actual jail time. Fraudulent registration of a motor vehicle is a felony offense. Most people confronted with evidence of their guilt and the seriousness of their offense, to date, have complied promptly. The involved agencies are developing more efficient methods of dealing with illegal registrations that result in exemption from the I/M programs.

Utah County is committed to a cooperative aggressive effort to ensure that vehicles operated in the county comply with the I/M program to ensure a compliance rate of at

least 95%.

11. Motorist compliance enforcement program oversight

Utah Tax Commission, tax assessors, and county roles The Utah Tax Commission Motor Vehicle Customer Service Division and county tax assessors deny application for vehicle registration or renewal of registration without submittal of a valid certificate of compliance, waiver, or verified evidence of exemption. Proof is retained by the tax clerk, micro-photo-copied, and then destroyed. Altered or hand-written documents are not accepted. All certificate data is collected by Utah County I/M program auditors and subjected to scrutiny for evidence of any improprieties.

Database quality assurance The vehicle registration database is maintained and quality assured by the Motor Vehicle Customer Service Division. The I/M inspection database is maintained and quality assured by Utah County I/M program staff. See Appendix F of the UTAH91 analyzer specifications for a file layout description. The Utah County I/M program has access to the Motor Vehicle Customer Service Division database and utilizes it on a regular basis for quality assurance purposes. The databases are subject to regular auditing, cross-referencing, and analysis. The databases are also evaluated using data obtained during roadblocks and parking lot surveys. Evidence of program effectiveness problems trigger additional joint enforcement activities.

Oversight provisions The oversight program includes verification of exempt vehicle status through inspection, data accuracy through automatic and redundant data entry for most data elements, an audit trail for program documentation to ensure control and tracking of enforcement documents, identification and verification of exemption-triggering changes in registration data, and regular audits of I/M inspection records, I/M program databases, and the Motor Vehicle Customer Service Division database.

Enforcement staff quality assurance I/M program auditors and tax clerks involved in vehicle registration are subject to regular performance audits by their supervisors. All enforcement personnel (direct and indirect) involved in the motorist enforcement program are subject to disciplinary action, additional training, and termination for deviation from procedures. Specific provisions are outlined in the Motor Vehicle Customer Service Division procedures manual which is available upon request, the county I/M audit policy documents provided in Section X, Part D, Appendix D.1 containing the Utah County I/M ordinances, and Section 3.9 of the UTAH91 analyzer specifications.

Co-operative enforcement oversight effort Motor Vehicle Customer Service Division, Utah Division of Air Quality, Utah highway patrol, and Utah County I/M program staff meet at least once a month to ensure on-going high quality oversight of joint motorist compliance program. EPA audit of this process is authorized if measures to protect tax-payer confidentiality acceptable to Motor Vehicle Customer Service Division are exercised.

12. I/M Program quality assurance

Station/inspector audits Utah County regularly audits all permitted I/M inspectors and stations to ensure compliance with the Utah County I/M ordinance. Particular attention is given to identifying and correcting any fraud or incompetence with respect to vehicle emissions inspections. Compliance with record keeping, document security, analyzer maintenance, and program security requirements are scrutinized. The inspector's skill level is also evaluated during audits. Another major purpose of the audits is to retrain inspectors, as necessary, as soon as problems are identified. Documentation sufficient to support a legal case to suspend or revoke a permit is also collected in the event of serious and/or repeated violations. Most stations and inspectors are audited every month and all at least quarterly.

Covert audits Utah County, to the extent possible, performs a covert audit of each inspector and station at least once a year. The number of covert audits at least equals the number of permitted inspectors. Covert audits are performed using a variety of vehicles that are representative of the subject fleet that are set to fail across a full range of malfunctions. Suspected problem stations and inspectors are targeted for earlier and more frequent audits. Complaints also trigger additional audits.

Covert performance audits shall include:

Remote visual observation of inspector performance, which may include the use of aids such as binoculars or video cameras, at least once per year per inspector in high-volume stations (i.e., those performing more than 4000 tests per year);

Site visits at least once per year per number of permitted inspectors (per inspector FTE) using covert vehicles set to fail (this requirement sets a minimum level of activity not a requirement that each inspector be involved in a covert audit); and

For stations that conduct both testing and repairs, at least one covert vehicle visit per station per year including purchase of repairs and subsequent retesting if the vehicle is initially failed for tailpipe emissions.

Electronic audit capabilities The UTAH91 performs various analyses to identify statistically inconsistent data indicative of problem stations and inspectors. Overt audit records are maintained electronically in the UTAH91. After overt audits the auditor retrieves the data on the analyzer diskette containing the audit, vehicle inspection, and analyzer service, maintenance, and calibration records dating back to the previous audit. The data from each audit is added to the comprehensive central county I/M database. Further analysis of the central database results in identification of stations and inspectors for which additional audits are performed.

Auditor quality assurance Auditors receive on-the-job training in: the use of the

UTAH91 analyzer; the I/M program regulations; basic air pollution control; basic principles of emissions-related motor vehicle engine repair; emission control systems; evidence gathering; administrative procedures and laws; quality assurance practices; and covert audit procedure. Utah County sends auditors to additional automotive emissions-related training and meetings on a regular basis. Auditor supervisors audit the I/M program auditors by reviewing their documentation and also auditing a number of their stations at least once every year.

Written audit procedures Copies of the Utah County I/M program overt and covert audit procedures are provided in Section X, Part D, Appendix D.4 that contains the Utah County I/M ordinances. A detailed description of the audit capabilities of the UTAH91 analyzer are found in Section 3.9 of the UTAH91 analyzer specifications.

Utah County Enhanced I/M quality assurance In Utah County, after and if the Enhanced I/M ordinance becomes effective, additional quality assurance measures will be required. In addition to the other quality assurance provisions of Section N, Utah County specifies overall systems performance quality assurance requirements for the Enhanced I/M stations, inspectors, and equipment in 10.31 of the Utah County I/M ordinance. It includes statistical oversight of average, median, 10^{th} percentile and 90^{th} percentile values of the emission levels of each pollutant and pass/fail statistics for each test lane for each inspection station and for all inspection stations combined. The use of control charts are specified in 10.32 of the I/M ordinance. Section 10.25 of the Utah County I/M ordinance requires the Enhanced I/M contractor to develop, maintain, and modify a quality assurance plan as required by the Utah County Health Department. Section 10.26 of the ordinance specifies the test assurance procedures. Section 10.27 specifies periodic dynamometer quality assurance checks. Constant volume sampler periodic quality assurance checks are specified in Section 10.28. Section 10.29 specifies analysis system periodic quality assurance checks. Section 10.30 provides quality assurance for on board diagnostics interrogation equipment periodic quality assurance checks. The ordinance also specifies the minimum elements of the quality assurance plan and required procedures. Section 10.41.6 requires the contractor to submit a quality assurance and maintenance plan for on-highway emissions testing equipment and procedures to the Utah County Health Department for approval. The plan shall include test assurance procedures, periodic quality assurance checks, and, at a minimum, the maintenance procedures specified by the remote sensing equipment manufacturer.

13. Enforcement against stations and inspectors

General enforcement provisions The Utah County I/M program is responsible for enforcement action against incompetent or dishonest stations and inspectors. The Utah County I/M ordinance includes a penalty schedule. For serious or repeated offenses, auditors are authorized to immediately suspend the station or inspector by locking out their UTAH91 analyzer(s). The County does not have legal authority to impose direct fines on stations or inspectors, but suspension or revocation of a station permit results in a

substantial loss of income that is far in excess of $100 fine suggested by the EPA guidance. Fee settlements are at least as much the station's anticipated income for emissions testing for the time during which the station would be suspended. A station permit may be suspended or revoked even if the owner/operator had no direct knowledge of the violation. In the case of incompetence, re-training is required before the permit is restored.

The County revised its penalty schedule to comply with the more stringent specifications included in 40 CFR 51.364. The Utah Air Quality Board adopted the revised penalty schedule for Utah County on January 30, 1995. See Section X, Part D, Appendix D.1. At a minimum, inspector and station permit suspension shall be imposed for at least 6 months (or a fee retainage or settlement penalty equivalent to the inspector's salary for that period) whenever a vehicle is intentionally improperly passed for any portion of the required test.

Suspension and revocation Suspension or revocation effectively bars an individual from further inspections because the auditor removes the inspector's authorization code from the UTAH91 analyzer or Enhanced I/M inspection computer (if and when developed). Evidence of indirect participation in emissions inspections by an individual while suspended or revoked could result in legal action against the station. If the station is suspended or revoked the analyzer is totally locked-out. The analyzers are initialized by an auditor for use at a single permitted station and only by inspectors permitted for that station. A record of the serial numbers of all registered analyzers and their locations is maintained by Utah County.

Enforcement records Utah County keeps comprehensive records on all audit activities, warnings, suspensions, and revocations and report enforcement activity statistics to the EPA and the executive secretary on an annual basis.

14. Data collection

Utah County Enhanced I/M data collection If effective, Section 10.33.4 of the Utah County Enhanced and Basic Vehicle Emission I/M ordinance (Section X, Part D, Appendix. D.1) requires the contractor to maintain and make available to for inspection by the Health Department records regarding inspections, equipment maintenance, and the required quality assurance activities. Section 10.4 requires inspectors to record tampering data in the emissions analyzer. Section 20.7(d) requires the contractor to maintain a record of the number of vehicles tested with a default setting, the type of setting, and the test lane. Section 10.8 requires the contractor to record the ambient temperature, absolute humidity, and barometric pressure either continuously during the driving cycle or as a single set of readings no more than 4 minutes before the start of the driving cycle. The contractor is required by Section 10.9.1 to sample, measure, and record background concentrations of hydrocarbons, carbon monoxide, oxides of nitrogen, and carbon dioxide in the Enhanced I/M inspection station (if and when developed). Section 10.11.2 requires

the contractor to sample and record dilute exhaust hydrocarbon, carbon monoxide, carbon dioxide, and oxides of nitrogen emissions over the driving cycle Section 10.22.4.1 requires the contractor to use an analysis system which automatically samples, integrates, and records dilute exhaust hydrocarbons, carbon monoxide, carbon dioxide, and oxides of nitrogen upon initiation of the transient driving cycle; automatically determines the vehicle pass/fail status; and automatically prints a pass/fail report;

UTAH91 analyzer inspection data The UTAH91 analyzer creates a detailed record of each emissions inspection performed including, but not limited to the following data, for each vehicle tested: test record number; inspection station number; inspector number; test system number; date of the test; emission test start time; the time final emission scores are determined; vehicle identification number (VIN); license plate number; test certificate number; gross vehicle weight rating (GVWR); model year, make, and type of vehicle; number of cylinders or engine displacement; transmission type; odometer reading; category of test performed (i.e., initial, first retest, or subsequent retest); fuel type of the vehicle; emission scores for HC, CO, and CO_2 at idle and 2500 RPM; and results (pass/fail/not applicable) for visual inspection of the catalytic convertor, air system, gas cap, evaporative system, positive crankcase (PCV) valve; and the fuel inlet restrictor. The tailpipe emission standards for each type of vehicle is included in a look-up table in the UTAH91 analyzer. The UTAH91 analyzer automatically uses the appropriate standards for the type of vehicle being tested and makes a pass/fail determination. The inspection data is recorded by the UTAH91 analyzer during the inspection procedure.

UTAH91 analyzer quality assurance data Quality assurance data including a detailed history of all calibration (including the concentration values of the calibration gases), service, lockout, and document security events are also recorded and maintained by the UTAH91 analyzer. Each UTAH91 record includes, as applicable, the station number, mechanic access number, auditor access number, service access number, analyzer serial number, date, and activity time.

UTAH91 analyzer database specifications The programming criteria for the analyzer database is described in Section 3 of the UTAH91 analyzer specifications. Appendix F of the UTAH91 analyzer specifications contains a complete description of the electronic data records. The data disk containing inspection and quality assurance information is removed from the UTAH91 analyzer by an auditor at least once a month during overt audits and maintained permanently in the county's central I/M database.

Remote sensing data Remote sensing data will be collected and maintained by Utah County as described in the Remote Sensing Device specifications provided in Section X, Part A, Appendix A.6 and Utah County remote sensing program policies.

15. Data analysis and reporting

Annual Utah County shall analyze I/M program data and submit annual reports to the U.S.

Environmental Protection Agency and the executive secretary upon request. Beginning in July of 1995, Utah County will submit to EPA and the executive secretary an annual report, for January through December of the previous year, which provides statistics on the testing, quality assurance, and enforcement activities of each I/M program. At a minimum the annual reports will include all of the data elements listed 40 CFR Subpart S 51.366.

Biennial Beginning in July of 1996, and biennially thereafter, Utah County shall submit a report to EPA and the executive secretary discussing all changes made in the program design, funding, personnel levels, procedures, regulations, and legal authority. The report will also supply a detailed discussion of the impact of such changes upon the program, any weaknesses or problems discovered in the program over the previous two-year period, the steps that were taken to address those problems, the result of those corrective actions, and any future efforts planned.

Enhanced I/M real-time data link If and when the Enhanced I/M program is implemented, Utah County shall require all certified station owners to provide a real-time computer data link between their station(s) and the Utah County health department in a manner approved by the health department and consistent with the requirements of 40 CFR 51 Subpart S.

16. Inspector training and permitting

Inspector permitting and initial training No person may conduct an official I/M inspection unless they are certified and subsequently permitted. Utah County requires formal training prior to certifying inspectors. Each class includes at least the following information: the causes and effects of air pollution; the purpose, function, and goal of the I/M program; I/M inspection ordinances, policies, and procedures; technical details of the test procedures and the rational for their design; emission control device function, configuration, and maintenance; quality control procedures and their purposes; public relations; and safety and health issues related to the I/M inspection process. Inspector candidates will not be issued a permit unless they have passed a written test with at least 80% correct responses and a hands-on test during which the trainee demonstrates the ability to properly conduct all test procedures, calibrate the UTAH91 analyzer, properly utilize equipment, and to follow other I/M program requirements. Utah County will take appropriate steps to insure the security of the testing process.

Utah County Enhanced I/M Inspector Training If and when the Enhanced I/M program is implemented, Section 10.33.3 of the Utah County I/M ordinance requires the contractor to develop, maintain, and modify as required by the health department an inspector training program, to include both classroom and hands-on training, with provisions for initial and periodic in-service training. Utah County's ordinance also requires health department approval of the Enhanced I/M training program (if and when developed). Utah County's contractor must provide the training to each inspector before the inspector may perform

inspections and periodic in-service training, over a period established by the health department.

Basic inspector permit renewal Inspector permits are valid for a period of one year, at which point refresher training and testing, are required prior to permit renewal. An auditor enters the inspector's permit expiration date in the UTAH91 analyzer(s) that the inspector is authorized to use. Starting 60 days prior to the inspector's permit expiration date the analyzer displays the message "Your mechanic permit expires MM/DD/YY". The analyzer locks-out inspectors that attempt to use the UTAH91 analyzer after their permit expires and displays the following message. "Your mechanic permit expired (date). You are not authorized to perform any emissions inspections at this time. Please contact your local I/M office." Auditors will not clear the lock-out until the inspector has renewed the permit. Utah County may require evidence of more comprehensive emissions-related automotive training as a prerequisite to inspector permit renewal.

Inspector permit suspension and revocation A determination of inspector incompetence or failure to comply with I/M program requirements may result in suspension or revocation or an inspector's permit prior to the annual expiration date. A permit to conduct I/M inspections is not a legal right but rather a privilege bestowed by Utah County conditional upon adherence to its I/M program requirements.

Inspector training authority and materials Authority to require mandatory I/M inspector training is established and described in the Utah County I/M ordinances. A description of the I/M inspector training programs and the written and hands-on tests is provided in Section X, Part D, D.6.

17. Public information and consumer protection

General public information The Utah County, along with the Utah Department of Environmental Quality, provides a comprehensive public education and protection program including strategies to educate the public on: Utah's air quality problems; ways that people can reduce emissions; the requirements of state and federal law; the role of motor vehicles in the air quality problem; the need for and benefits of a vehicle emissions inspection program; ways to operate and maintain a vehicle in a low-emission condition; how to find a qualified repair technician; and the requirements of the I/M program. Information is provided via direct response to inquiries for information, reports, classes, pamphlets, fairs, school presentations, workshops, news releases, posters, signs, and public meetings.

County I/M technical centers Utah County operates an I/M technical center staffed with trained auditors and capable of performing emissions tests. A major function of the I/M technical center is to serve as a referee station to resolve conflicts between permitted I/M inspectors, stations, and motorists. Auditors actively protect consumers against fraud and abuse by inspectors, mechanics, and others involved in the I/M program. Complaints

made on a confidential basis are investigated and resolved in a manner that conceals the person's identity to ensure protection of whistle blowers. Auditors advise motorists regarding emissions warranty provisions and assist the owners in obtaining warranty-covered repairs for eligible vehicles. Applications for waivers are evaluated by auditors at the I/M technical center and issued only after visual verification that all the requirements for a waiver have been met, including retest of the vehicle. The I/M technical centers also provide motorists with information regarding the I/M program, general air pollution issues, and emissions-related automotive repairs.

Vehicle inspection report A vehicle inspection report (VIR) is printed and provided to the motorist after each vehicle inspection. The VIR includes a public awareness statement about automotive emissions and lists additional ways that the public can reduce air pollution. The test results are detailed on the VIR. Information about vehicle emissions warranties and the benefits of emissions-related repairs are printed for vehicles that failed the test. Information about waiver requirements and application procedures are printed on the VIR, if the vehicle has failed a retest, including the address and telephone number of the applicable I/M technical center. A complete description of the VIR is included in Appendix E of the UTAH91 analyzer specifications.

Utah County Technician Vehicle Report If effective, Section 10.34 of the Utah County I/M ordinance (Section X, Part D, Appendix. D.1.a) requires the contractor to issue a report containing information on test results of a vehicle which has failed an emissions inspection to a person seeking to have repair performed on the vehicle. The contractor must make the report available electronically to repair facilities, and shall provide read-only, convenient, and standardized access. The contractor is required to include the following information in the report: second-by-second emission levels in grams per second for each pollutant, and the corresponding average values for passing vehicles of the same model year, manufacturer, and engine family; and for an on-board diagnostics interrogation failure, fault codes stored in the vehicle on-board diagnostics system related to the emissions control equipment and to the power train.

Utah County repair report card Using information in *Technician Vehicle Report,* the Utah County health department proposes to compile report cards for each certified repair facility and technician. The contractor shall distribute a copy of the most recent report card to operators of vehicles that fail an I/M inspection.

I/M county co-operative public education tools A variety of pamphlets and radio, television, and newspaper advertisements about automotive air pollution issues are developed and distributed by the Utah County I/M program in cooperation with other I/M counties and the Utah Division of Air Quality. The legislature authorizes funding each year for pass-through money from the state to Utah County for public education to help reduce vehicle emissions.

18. Improving repair effectiveness

High priority Utah County implemented the Basic I/M program revision described in this SIP revision on September 1, 1991. Shortly thereafter, Utah County (along with other I/M counties) and the Utah Division of Air Quality staff jointly identified improvement of repair effectiveness as a high priority action item. The Governor's Clean Air Commission also recommended making affordable additional emissions-related training available. Full emission reductions will only be realized if the repair industry is able to competently diagnose and repair emissions-related defects.

Continuing education To that end, I/M program managers have worked with Utah's higher education institutions to develop and provide emissions-related automotive technology classes to mechanics. Inspectors are also encouraged to take classes offered by trade organizations, automobile manufacturers, and dealers. The permit renewal tests are difficult enough to make this provision a good incentive. The classes are advertised in the Utah County I/M technical bulletins.

I/M program repair support activities In initiating improved automotive educational opportunities, Utah County works on a day-to-day basis to ensure that repair information is available. I/M stations are required to have available up-to-date relevant automotive diagnostic references and tools as a condition for obtaining a permit. Utah County maintains a hot line to its I/M technical center so that any mechanic can call for technical assistance related to vehicle inspection, diagnosis, and repair. Technical bulletins are regularly mailed to each permitted inspector with information regarding training schedules, common problems found with particular engine families, and diagnostic tips.

Utah County Enhanced I/M feedback reports to repair facilities If and when the Enhanced I/M program is implemented, the contractor must also make electronically available to the health department information on vehicles which have received emissions related repairs and have been submitted for reinspection. Section 10.35 also requires the contractor to provide a monthly feedback report in a format approved by the health department to vehicle repair facilities which have performed emissions related repairs on vehicles submitted for reinspection. The report shall include, for the reporting period, the following statistics for vehicles submitted for reinspection: the total number; the number failing the first reinspection; the number receiving waivers after the first reinspection; the reinspection failure rate; and the multiple reinspection rate.

19. Basic I/M SIP implementation

As required by 40 CFR Part 51.373(a) the Basic I/M SIP requirements not included in the September 30, 1993, adoption of Section X by the Utah Air Quality Board have been funded and implemented, including but not limited to the covert audits requirements specified in Section X.E.13 and the penalty provisions specified in Section X.E.15. On January 30, 1995, the Utah Air Quality Board adopted the changes which are documented in the Utah County I/M ordinance found in Section X, Part D, Appendix D.1.

The Basic I/M program ordinances or regulations, policies, procedures, and activities specified in this Basic I/M SIP revision have been implemented and shall continue until a maintenance plan without an I/M program is approved by EPA in accordance with Section 175 of the Clean Air Act as amended.

20. On-road Testing

If effective, Section 10.41 of the Utah County I/M ordinance (Section X, Part, D, Appendix D.1.a) requires the Enhanced I/M contractor to conduct on-road emissions testing using a remote sensing device. The contractor must use equipment approved by the Utah County health department and EPA and procedures specified by the equipment manufacturer and the health department. The contractor must measure vehicle exhaust emissions of hydrocarbons and carbon monoxide. When technologically feasible, the contractor is required to measure oxides of nitrogen emissions. Section 10.41.2 requires the contractor to conduct testing in each jurisdiction in the inspection area at least once each year, and to test at least 0.5 percent of the affected vehicles in each jurisdiction. The contractor shall submit the schedule of the test date, time, and location to the Utah County health department no less than 5 days and no more than 15 days in advance of the test date. The Utah County Commission adopted a Remote Sensing Program ordinance in 1996. The ordinance is provided in Section X, Part D, Appendix D.1.c.